REMARKS

The allowance of claims 15-25 is noted with appreciation.

The Examiner objected to claims 4-8, 12-14, 28, 29, 32 and 33 as being dependent upon a rejected base claim. It will be shown below that the independent claims from which these dependent claims depend are all allowable over the references cited by the Examiner. However, the Applicants still reserve the right to amend one or more of these dependent claims to be independent claims at a later date.

The Examiner rejected claims 1-3, 9-11, 26, 27, 30 and 31 under 35 U.S.C. 103(a) as being unpatentable over Peterzell (U.S. Patent Application Publication No. 2002/0123319 A1), and further in view of Bejjani et al. (U.S. Patent No. 6,510,143 B1). These rejections are respectfully disagreed with and are traversed below.

Claim 1 claims:

> A code division, multiple access (CDMA) receiver, comprising:
>
> a RF section for receiving a CDMA signal;
>
> a circuit for determining an instantaneous total received power (Io) of the received CDMA signal; and
>
> a searcher that is one of enabled for operation or disabled from operation in accordance with the value of Io.

The Examiner cited Peterzell at paragraphs [0091]-[0093] as disclosing "a circuit for determining an instantaneous *total* received power (Io) of the received CDMA signal" (emphasis added). At paragraph [0091], Peterzell states:

> The output of IR filter 910, I_FILT, is inputted, along with its Q counterpart, Q_FILT (not shown), to a multiplier 970. For each sample, multiplier 970 may

10

detect instantaneous received power 961 for the I channel by squaring the I_FILT
signal, and for the Q channel by squaring the Q_FILT signal. The squared signals
are proportional to the power of the signal.

The instantaneous received power 961 Peterzell refers to is for each of the two channels, the I
channel and the Q channel, individually. In contrast, the subject application discloses
determining instantaneous received *total* power (Io) based on *both* channels. As is apparent in
Figures 1 and 2A of the subject application, and as further explained in the Specification at p. 6,
line 30-p. 7, line 12:

> In Fig. 1 the received RxI and RxQ samples are squared and summed (I^2+Q^2),
> and then integrated two samples per chip over a 64 chip period in the CDMA
> core 20. Referring also to the logic flow diagram of Fig. 2A, the DSP 30 reads the
> integrated signal power, SymPower, every symbol at a 19.2 KHz rate. At Block A
> the Io detector 24 accumulates n SymPower samples, and the accumulated value
> of SymPower is scaled and then compared to a reference signal value used in the
> RX_AGC 22, such as a value used to control the AGC gain.

The foregoing reproduced portion of the specification is not to be construed as imposing any
restriction or limitation on the breadth or interpretation of claims 1-33.

The integrated signal power (SymPower) is based on the received samples from *both* channels. It
is the SymPower values that are provided to the Io detector 24 for use in accord with exemplary
embodiments of this invention. Hence, the instantaneous received total power (Io)
determinations, as per exemplary embodiments of the subject application's invention, are based
on *both* the I and Q channels. Clearly Peterzell does not disclose or suggest "a circuit for
determining an instantaneous *total* received power (Io) of the received CDMA signal," as claimed
in claim 1 (emphasis added).

The Examiner then cited Bejjani et al. at col. 1, lines 36-57 as disclosing "a searcher that is one of
enabled for operation or disabled from operation in accordance with the value of Io." The
Examiner further explained in the Office Action at p. 3, lines 3-4 that: "this limitation is
inherently taught because that enabling or disabling the path is a part of the selective operation."

Even if one were to allow that the path searcher of Bejjani et al. is similar to the searcher function of the subject application, which Applicants do not admit, Bejjani et al. do not disclose or suggest utilizing the instantaneous total received power (Io) in conjunction with the path searcher. At col. 1, lines 38-57, Bejjani et al. state:

> The path searcher needs a **power profile** prior to the path selection operation. Such a profile is preferably computed by non-coherent averaging of instantaneous channel profiles performed on a slot by slot basis. Each instantaneous profile consists in performing a series of correlation. In a CDMA system, part of the signal (called pilot sequence) is known by the receiver. At the receiver, the spread pilot sequence is generated. Correlating this signal with the received one allows estimating the energy of the paths. As the channel can be spread over a certain duration, the path searcher performs the correlation over a predetermined time window. **It yields peak of energy for each path of the channel and false samples related to the noise and interference levels for other time delays. This set of values is called a profile.** Then, the path searcher performs a summation of the instantaneous profiles. Such a summation allows detecting the true paths of the channel by averaging the spurious noise. The following task of the path searcher is then the thresholding of the probably spurious paths, according to predetermined rules.

(emphasis added)

As is apparent, the path searcher of Bejjani et al. utilizes instantaneous channel power profiles. These power profiles are based on the "peak of energy for each path of the channel" as well as "false samples related to the noise and interference levels for other time delays." Clearly the power profiles utilized by the path searcher of Bejjani et al. are not related to or similar to values of the "instantaneous total received power (Io)," as employed in claim 1.

Furthermore, Bejjani et al. do not disclose or suggest "a searcher that is one of enabled for operation or disabled from operation in accordance with the value of Io." Bejjani et al. do not disclose enabling or disabling their path searcher in response to any data, let alone in response to a value of instantaneous total received power (Io), as claimed in claim 1. Applicants fear that the Examiner may have confused the terms since, as noted above, in the Office Action the Examiner

stated: "that enabling or disabling the *path* is a part of the selective operation" (emphasis added). The subject claim 1 involves "enabl[ing] for operation or disabl[ing] from operation" "*a searcher*." A path is obviously distinctive from a searcher. Clearly Bejjani et al. do not disclose or suggest "a searcher that is one of enabled for operation or disabled from operation in accordance with the value of Io," as claimed in claim 1.

Further in this regard, it was shown above that Peterzell is not seen to disclose at least "a code division, multiple access (CDMA) receiver, comprising: ...a circuit for determining an instantaneous total received power (Io) of the received CDMA signal," as claimed in claim 1. Thus, even if the proposed combination were made, which is not admitted is technically feasible or suggested, the resulting combination of teachings would not suggest the claimed subject matter.

Though dependent claims 2–3 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. Further discussion of these two claims, with respect to the specific art cited against them, is undertaken below.

Independent claims 9, 26 and 30 claim a similar feature as claim 1 noted above, including "a method for operating a code division, multiple access (CDMA) receiver, comprising: ...determining an instantaneous total received power (Io) of the received CDMA signal; and enabling or disabling a searcher for operation in accordance with the value of Io" (claim 9), "a radio frequency (RF) receiver, comprising: ... means for determining an instantaneous total received power (Io) of the received RF signal; and means for one of enabling a searcher means for operation or disabling the searcher means from operation in accordance with the value of Io " (claim 26) and "a method for operating a radio frequency (RF) receiver, comprising: ... a step for determining an instantaneous total received power (Io) of the received RF signal; and a step for selectively one of enabling or disabling a searcher for operation in accordance with the value of Io" (claim 30). For the same reasons stated above with respect to claim 1, independent claims 9, 26 and 30 are not rendered obvious by Peterzell in view of Bejjani et al. Therefore, claims 9, 26 and 30 are patentable and should be allowed.

13

Though dependent claims 10–11, 27 and 31 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claims 9, 26 and 30, respectively. Further discussion of these four dependent claims, with respect to the specific art cited against them, is undertaken below.

Claim 2 claims:

> A CDMA receiver as in claim 1, wherein said circuit comprises a comparator for comparing Io against a threshold, and for generating a searcher trigger signal only when Io exceeds the threshold.

The Examiner cited Bejjani et al. at col. 1, line 61-col. 2, line 37 as teaching the subject matter of claim 2. Applicants respectfully disagree with this contention.

As an initial matter, Applicants reassert the distinction noted above, with regards to claim 1, concerning the differences between the path searcher of Bejjani et al. and the search function of the subject application. Furthermore, Applicants also reassert the distinction concerning the power profiles utilized by the path searcher of Bejjani et al. and the values for the "instantaneous total received power (Io)" as employed by the subject application.

At col. 2, lines 3-10, Bejjani et al. state:

> Usual path selection algorithms generally select a number of most powerful samples that are above a predefined fixed threshold. If the fixed threshold is too low, there is a non-negligible probability of erroneously selecting a large number of only noise samples in the profile. On the contrary, if the fixed threshold is too high, some of the channel taps with the lower power are not selected and thus a waste of energy and/or diversity is incurred.

The threshold of Bejjani et al. is used for selecting samples, not for "generating a search trigger signal only when Io exceeds the threshold," as claimed in claim 2. Furthermore, the prior art cited by Bejjani et al. at col. 2, lines 11-21, namely EP0643504, discusses a decision variable for

14

selecting paths. Clearly this does not relate to "comparing Io against a threshold, and for generating a search trigger signal only when Io exceeds the threshold," as in claim 2. Bejjani et al. do not disclose or suggest the subject matter of claim 2.

Claims 10, 27 and 31 claim a similar feature as claim 2 noted above, including "a method as in claim 9, wherein determining the instantaneous total received power comprises comparing Io against a threshold, and generating a searcher trigger signal only when Io exceeds the threshold" (claim 10), "a RF receiver as in claim 26, where said enabling means comprises comparator means for comparing Io against a threshold, and for generating a searcher means trigger signal only when Io exceeds the threshold" (claim 27) and "a method as in claim 30, where the step for determining the instantaneous total received power comprises comparing Io against a threshold, and generating a searcher trigger signal only when Io exceeds the threshold" (claim 31). For the same reasons stated above with respect to claim 2, claims 10, 27 and 31 are not rendered obvious by Peterzell in view of Bejjani et al. Therefore, claims 10, 27 and 31 are patentable and should be allowed.

Claim 3 claims:

> A CDMA receiver as in claim 1, wherein said circuit comprises a comparator for comparing Io against a threshold, and for generating a searcher trigger signal when Io exceeds the threshold, **or if Io does not exceed the threshold, for generating the searcher trigger signal within some predetermined period of time.**

(emphasis added)

The Examiner cited Bejjani et al. at col. 1, line 61-col. 2, line 37 as teaching the subject matter of claim 3. Applicants respectfully disagree with this contention.

As an initial matter, and as noted in the above discussion of claim 2, Applicants reassert the distinction noted above, with regards to claim 1, concerning the differences between the path
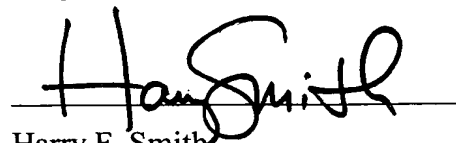
searcher of Bejjani et al. and the search function of the subject application. Furthermore, Applicants also reassert the distinction concerning the power profiles utilized by the path searcher of Bejjani et al. and the values for the "instantaneous total received power (Io)" as employed by the subject application.

As noted above with regards to claim 2, the threshold of Bejjani et al. is used for selecting samples, not for "generating a search trigger signal only when Io exceeds the threshold," as claimed in claim 3. Furthermore, the cited portion of Bejjani et al. does not disclose or suggest "generating the searcher trigger signal within some predetermined period of time" " if Io does not exceed the threshold," as in claim 3. Clearly Bejjani et al. do not disclose or suggest the subject matter of claim 3.
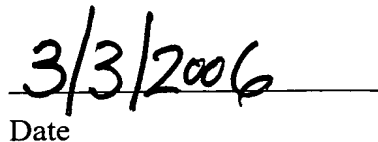
Claims 11 claims a similar feature as claim 2 noted above, including "a method as in claim 9, wherein determining the instantaneous total received power comprises comparing Io against a threshold, and generating a searcher trigger signal only when Io exceeds the threshold, **or if Io does not exceed the threshold, generating the searcher trigger signal within some predetermined period of time**" (emphasis added). For the same reasons stated above with respect to claim 3, claim 11 is not rendered obvious by Peterzell in view of Bejjani et al. Therefore, claim 11 is patentable and should be allowed.

The Examiner is respectfully requested to reconsider and remove the rejections of claims 1-3, 9-11, 26, 27, 30 and 31 under 35 U.S.C. 103(a) based on Peterzell in view of Bejjani et al., and to allow all of the pending claims 1-14 and 26-33 as now presented for examination. An early notification of the allowability of claims 1-14 and 26-33 is earnestly solicited.

Respectfully submitted:

Harry F. Smith
Reg. No.: 32,493

3/3/2006
Date

16

S.N.: 09/893,143
Art Unit: 2638

Customer No.: 29683

HARRINGTON & SMITH, LLP
4 Research Drive
Shelton, CT 06484-6212
Telephone: (203)925-9400
Facsimile: (203)944-0245
email: hsmith@hspatent.com

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

March 3, 2006

Date

_____

Name of Person Making Deposit

17